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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,797	10/29/2001	Arthur L. Cleary	VUT-002	9380

31408 7590 07/11/2006

LAW OFFICE OF JAMES TROSINO
92 NATOMA STREET, SUITE 211
SAN FRANCISCO, CA 94105

EXAMINER

HAUGLAND, SCOTT J

ART UNIT	PAPER NUMBER
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3654

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/057,797

Applicant(s)

CLEARY ET AL.

Examiner

Scott Haugland

Art Unit

3654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-15, 17 and 19-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-15, 17 and 19-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-15, 17, 19-21, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yraceburu et al (U.S. Pat. No. 6,409,332) in view of Mittmeyer et al (U.S. Pat. No. 5,232,141).

Yraceburu et al discloses an apparatus and method for transporting a substrate 16 in a printing system including a transport belt 32 having a plurality of holes, a vacuum table 307, 311 having a flat top surface (top of 311) and a plurality of holes 315 which generates a vacuum with a vacuum pump motor 303, and a porous sheet 318 or 323 for restricting fluid flow between the table and the belt 32 so that when a narrow or small sheet of substrate 16 is transported, the flow is restricted due to the porous sheet. The elements 323, 318 (317) can be made from a number of different materials (col. 6, lines 16-32) including "sintered materials such as of plastic or metals".

Yraceburu et al does not disclose that the porous sheet is positioned between the belt 32 and the vacuum table 307, 311.

Mittmeyer et al teaches forming a vacuum roller with a porous layer of material 1, 1A located between a top or outer surface of a vacuum box 2, 2A in which holes 10, 26 are located and web material held against the roller during transport.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to locate the porous sheet of the apparatus of Yraceburu et al between the top of the vacuum table (top of 311) and the belt 32 as taught by Mittmeyer et al since the porous material would provide the desired function of equalizing pressure distribution and filtering air whether placed above 311 or below it and since placing a porous sintered material against the belt provides the advantage of forming a smooth sliding surface as taught by Mittmeyer et al for the belt to minimize wear and friction.

With regard to claims 2 and 17, note that Yraceburu et al discloses a level of vacuum in the claimed range at col. 6, lines 30-32.

With regard to claims 4-6, Yraceburu et al discloses all of the claimed subject matter as set forth above except for the vacuum sensor and the CPU coupled to the vacuum sensor and vacuum pump to maintain the vacuum level constant.

Simple control systems for vacuum pump systems including a vacuum sensor and CPU designed to control the motor of the vacuum pump to provide a constant vacuum pressure are well known in the art.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Yraceburu et al with a simple control system including a vacuum sensor and CPU to control the vacuum pump motor to maintain the vacuum constant in the vacuum table 307 as is well known in the art.

With regard to claims 7-9 and 12-13, Yraceburu et al does not disclose that the transport belt is made from woven polyester or polyurethane having a thickness of about 0.09 inch or stainless steel with a thickness of about 0.008 inch.

Vacuum transport belts made of woven polyester and polyurethane and stainless steel are well known in the art for their durability and long life.

It would have been obvious to one having ordinary skill in the art to provide Yraceburu et al with a vacuum transport belt made of woven polyester, polyurethane, or stainless steel and having a thickness of about 0.09 inch or 0.008 inch, respectively, because of their well known durability and long life.

With regard to claims 10 and 11, the holes in transport belt 32 appear to be "about" 0.1 inch in diameter and spaced "about" 1 inch since they would be compatible with the platen holes. Assuming they are not, the claimed dimensions would have been obvious since it would have been within the level of skill of an ordinary artisan to arrive at these dimensions to adapt the apparatus for a particular printer application as suggested by Yraceburu et al at col. 4, lines 11-39.

With regard to claims 14 and 15, Yraceburu et al does not disclose that the porous sheet 317 is made specifically out of sintered, porous polyethylene having a thickness of about 0.5 inch. Yraceburu et al does disclose that the porous sheet 317 can be made from a number of different materials (col. 6, lines 16-32) including "sintered materials such as of plastic or metals". Polyethylene is well known for its durability and ease of manufacture.

It would have been obvious to one of ordinary skill in the art to provide Yraceburu et al with a porous sheet made out of sintered, porous polyethylene having a thickness of about 0.5 inch because of its durability and ease of manufacture and its ability to act as a filter in accordance with the specification of Yraceburu et al.

Claims 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yraceburu et al in view of Mittmeyer et al as applied to claims 21 and 23 above, and further in view of Ju (U.S. Patent No. 5,806,992).

Yraceburu et al does not disclose an indicator that detects the thickness of the substrate.

Ju teaches providing an ink jet printing system for printing on a substrate with a substrate thickness detector 128, 136, 136, 140 that provides a signal used to adjust a gap between a print head and a platen so that the proper spacing is maintained between the head and substrate during printing.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Yraceburu et al with an indicator that detects the thickness of the substrate as taught by Ju to maintain the proper gap between the substrate and print head.

Response to Arguments

Applicants' arguments filed 5/1/06 have been fully considered but they are not persuasive.

Applicants argue that Yraceburu et al does not disclose or suggest a vacuum table having a flat top surface and a plurality of holes, each hole having a sidewall that extends to and is perpendicular to the top surface, a moveable transport belt above the top surface, and a flat porous sheet disposed between the top surface and the transport belt.

However, Mittmeyer et al suggests rearrangement of elements 311 and at least one of porous sheets 318, 323 of Yraceburu et al to locate the porous sheet between the top of 311 (top of the vacuum table) and the transport belt for the reasons set forth above. It would have been apparent to an ordinary artisan that the order in which air passes through the various layers of the transport apparatus in Yraceburu et al would not eliminate the pressure equalizing and air filtering effect of the porous sheets 318, 323. Mittmeyer et al teaches how to accomplish this rearrangement and teaches using a sintered material surface to provide a smooth surface for contacting material. As applied to Yraceburu et al, this would eliminate contact between the belt and the very uneven (due to the relatively large holes) surface of 311 and improve friction and wear characteristics of the transport apparatus.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. The new ground of rejection was necessitated by the amendments to claims 21 and 23. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

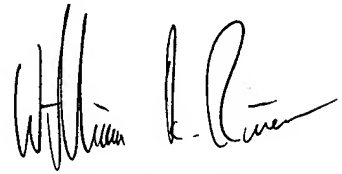
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Haugland whose telephone number is (571) 272-6945. The examiner can normally be reached on Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy Matecki can be reached on (571) 272-6951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3654

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


sjh
7/6/06


WILLIAM A. RIVERA
PRIMARY EXAMINER